ATTACHMENT J-8

CHANGE MANAGEMENT STRATEGY

U S C E N S U S B U R E A U

1. Introduction

The Data Access and Dissemination System (DADS) Program provides tabulation and dissemination services for official demographic and economic information to the Census Bureau.

The DADS Staff has established a Change Management Strategy (CMS) to manage ongoing program, system, and infrastructure changes. The CMS is used to prioritize changes and to examine the impact of the changes to program scope, cost, schedule, and quality. It is also used to ensure effective management of applicable baselines, based on approved changes.

1.1. Purpose

The purpose of the CMS is to describe the overall strategy to managing program, system, and infrastructure changes associated with DADS. The CMS represents the Government's vision on planning, implementing, recording, assessing, and approving changes to the scope, and technical, cost, and schedule baselines of the DADS Program.

The Government intends, through Government process improvement efforts and contractual arrangements, to evolve existing change management process and to leverage the mature change management process of our Contractor partner to implement the vision of a comprehensive and integrated change management environment embodied in the CMS. The successful change management environment will be effective for all types of changes to scope, and technical, cost, and schedule baselines but not at the expense of efficiency. Escalation and prioritization processes to handle urgent and critical CRs will be included in the detailed change management process. Also, processes will allow for iterative impact analyses (e.g. rough order of magnitude analyses followed by more detailed analyses if needed). Change management will be an integral part of Government and Contractor's decision-making process.

1.2. Scope

The scope of the CMS encompasses the management of planned and unplanned changes to DADS program, system, and infrastructure requirements. Planned changes are compiled by the DADS staff in the Annual Performance Work Statement, which is released to the Contractor prior to the beginning of each contract year. Unplanned changes are not included in the Annual Performance Work Statement, but rather are released as appropriate during the contract year.

The scope includes the management of the resultant changes to the requirements baseline, software and data release baselines, infrastructure baseline, and contract baseline. It also includes the roles and responsibilities of the Government and the Contractor for managing baseline changes. The CMS applies to DADS Business Operations, DADS Requirements Management, System Life Cycle Management, System Engineering and Architecture, Security, Replacement of DADS Systems, and Program Management. If exercised, the CMS also applies to the Option for Ad Hoc Tabulation replacement and the Option for Dissemination of Population Estimates.

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Also, the "full range" of Contract Management includes contract administration activities such as invoicing. The CMS does not, by intention, include contract administration activities or activities unrelated to the management of change. The CMS addresses only those aspects of Contract Management that deal with change management including contract modification.

2. Change Management Strategy

The DADS Change Management Strategy (CMS) is the overarching framework for managing changes to DADS. The DADS Program change management strategy is to plan, implement, record, assess and approve changes to the scope, and technical, cost, and schedule baselines. This will be accomplished by the integration of requirements management, release management, infrastructure management, configuration management, incident management and contract management. The elements of the CMS are:

- Evaluate proposed changes as formal Change Requests (CRs) in accordance with the business needs of the DADS program
- Invoke prioritization and escalation processes commensurate to the criticality of the CR (i.e. urgent versus routine CRs)
- Process CRs for program, system, and infrastructure requirements
- Manage requirement, release, infrastructure and contract baselines as a result of CRs
- Implement changes consistent with an approved system life cycle methodology
- Ensure changes are implemented with minimal impact to program scope, cost, schedule and quality
- Maintain traceability of changes throughout the system life cycle
- Ensure coordination and approval of changes between the Government and Contractor.

CRs include planned and unplanned changes that may result from Federal mandates, stakeholder requests, user feedback, and incident reports.

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2.1. Change Management Processes

The CMS consists of an integrated set of six processes that are used to manage the identification and implementation of changes for the DADS Program. The definitions and goals of the processes are shown in Table 2-1. Additional change management processes may be added in the future based on evolving business needs.

Table 2-1. Process Definitions and Goals

Process	Definition	Goals
Requirements Management	Process for prioritizing, analyzing, approving, and baselining requirements	• Prioritize and approve CRs • Manage requirements baselines • Maintain traceability throughout the system life cycle
Release Management	Process for scheduling, approving, and deploying system releases	• Define the content of system[1] releases • Schedule and approve releases for deployment • Manage release baselines
Infrastructure Management	Process for administering and maintaining the DADS infrastructure	• Provide a stable infrastructure, (e.g., server and network hardware, operating system and COTS software) • Manage infrastructure baselines
Configuration Management	Process for managing system and infrastructure configuration items (CIs)	• Manage system release and infrastructure CIs • Manage related system and infrastructure documentation • Identify and resolve configuration issues
Incident Management	Process for responding to incidents and restoring operational capability	• Respond to incidents in a timely manner • Maintain optimum levels of service quality and availability • Prevent and correct system and infrastructure defects
Contract Management	Process for managing changes to the contract baseline	• Provide controlled environment for effective interaction between Government and Contractor • Manage contract baselines

2.2. Change Management Boards

DADS has established a Change Control Board (CCB) staffed by government personnel to manage the reviews and approvals of CRs. The CCB reviews and filters CRs based on priority, importance, and funding availability. The CCB also approves, rejects, or defers CRs based on feasibility and impact. Additional change management boards may be added in the future based on evolving business needs and interfaces with stakeholder change control processes.

2.3. Change Management Databases

The change management databases and their usage are presented in Table 2-2. The databases described in Table 2-2 are the Government's conceptual view of the databases to be used for management of change. The final implementation of the tracking and management databases will be based on the Contractor's solution and the Contractor's Change Management Plan.

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[1] System releases refer to both data product and software releases in this document.

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Table 2-2. CMS Databases

Tool	Usage
Requirements Database (RDB)	• Manages changes to the requirements baseline • Contains templates to record and track CRs • Contains CR log
Release Management Database (RMDB)	• Records configuration items based on release changes • Tracks all configuration items, including software code, data, and documentation
Infrastructure Management Database (IMDB)	• Records configuration items based on infrastructure changes • Records and tracks all configuration items, including hardware and COTS software configuration files, data, and documentation
Incident Database (IDB)	• Records and tracks incidents (including problems) • Evaluates incidents that may necessitate CRs

3. Change Management Process

The change management processes are described in terms of their inputs, activities, outputs, and interactions. The relationships among the processes are also described. Note that the activities reflect the responsibilities of the Government and the Contractor.

3.1. Requirements Management

The requirements management process is described in Table 3-1.

Table 3-1. Requirements Management Process

Element	Details	
Inputs	• CRs (Program, System, Infrastructure) • Requirements baseline • Contract baseline • Inter-organizational Memorandum of Understanding (MOU) • Incident database	
Activities	Government	Contractor
	• Prioritize CRs • Analyze impacts - Analyze impact to quality - Request analysis from Contractor - Review technical and cost proposals • CCB review of CRs • Update requirements baseline • Update inter-organizational MOU as appropriate	• Support the Government in selecting, prioritizing and allocating requirements • Analyze impact to scope, cost, schedule, and quality • Prepare technical and cost proposals • Update requirements documents
Outputs	• Approved CRs • Technical and cost proposals • Updated requirements baseline • Updated inter-organizational MOU • Updated Requirements Traceability Matrix • Updated System Requirements Specification	

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Interactions	• Accept changes from Contract Management • Accept incidents from Incident Management • Allocate program and system CRs to DADS releases via Release Management • Allocate infrastructure CRs to DADS infrastructure via Infrastructure Management • Apply approved CRs to update contract baseline via Contract Management

3.2. Release Management

The release management process is described in Table 3-2.

Table 3-2. Release Management Process

Element	Details	
Inputs	• Approved CRs (program and system) • Updated requirements baseline • Release baseline	
Activities	Government	Contractor
	• Schedule data product releases for deployment • Allocate CRs to data releases • Approve software release schedule and allocation of CRs • Approve releases • Oversee contractor activities	• Propose software release schedule • Propose allocation of CRs to software releases • Build releases • Deploy releases • Update configuration items (CIs) (e.g., code and data files, documentation) • Prepare release documents • Conduct user training, as needed
Outputs	• Updated release baseline (including CIs) • A plan to describe the planning, schedule, and content for a system or data release • A plan to describe the distribution and installation activities and responsibilities; deployment checklist; dependencies; and documentation for a system or data release. May include details on user training	
Interactions	• Receive approved CRs from Requirements Management • Place releases under configuration control via Configuration Management	

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3.3. Infrastructure Management

The infrastructure management process is described in Table 3-3.

Table 3-3. Infrastructure Management Process

Element	Details	
Inputs	• Approved CRs (infrastructure) • Updated requirements baseline • Infrastructure baseline	
Activities	**Government**	**Contractor**
	• Approve infrastructure deployment schedule and allocation of CRs • Approve infrastructure changes and deployment • Oversee contractor activities	• Propose infrastructure release schedule and allocation of CRs • Build infrastructure changes (e.g., procure and install component upgrades) • Deploy infrastructure changes • Update CIs (e.g., servers, operating system files, documentation) • Prepare infrastructure documents
Outputs	• Updated infrastructure baseline (including CIs) • Infrastructure design to document the design changes to the infrastructure • A plan for the operations, maintenance and upgrade of the infrastructure • A plan to describe the distribution and installation activities and responsibilities; deployment checklist; dependencies; and documentation for infrastructure changes • Software licenses and maintenance agreements	
Interactions	• Receive approved CRs from Requirements Management • Place infrastructure changes under configuration control via Configuration Management	

3.4. Configuration Management

The configuration management process is described in Table 3-4.

Table 3-4. Configuration Management Process

Element	Details	
Inputs	• Updated release baseline (including CIs) • Updated infrastructure baseline (including CIs)	
Activities	**Government**	**Contractor**
	• Conduct reviews and audits to verify accuracy and completeness of CIs • Oversee contractor activities	• Identify applicable CIs for hardware, software, data, and documentation • Record CIs (release and infrastructure) • Prepare configuration documents • Track the relationship of CIs to releases • Report status information on all current and historical CIs
Outputs	• A report to present current and historical data concerning each CI • Audit reports	
Interactions	• Record CIs from Release Management and Infrastructure Management	

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3.5. Incident Management Process

The incident management process is described in Table 3-5. An incident is defined as any problem (e.g., server failure, data issue) that affects the system operation or prevents the system from satisfying the DADS requirements.

Table 3-5. Incident Management Process

Element	Details	
Inputs	• Incidents	
Activities	Government	Contractor
	• Identify and record incidents • Prepare CRs • Oversee contractor activities	• Identify and record incidents • Diagnose incidents • Identify corrective actions and related preventative actions • Prepare CRs • Conduct and report on trend analyses
Outputs	• Incident reports • Reports to document and analyze trends and present recommendations • CRs derived from incidents	
Interactions	• Analyses of incidents may trigger CRs for Requirements Management	

3.6. Contract Management Process

The contract management process is described in Table 3-6. Contract modifications are managed based on planned and unplanned changes to the program scope, cost, and schedule. The "full range" of Contract Management includes contract administration activities such as invoicing. The CMS does not, by intension, include contract administration activities or activities unrelated to the management of change. The CMS addresses only those aspects of Contract Management that deal with change management including contract modification.

Table 3-6. Contract Management Process

Element	Details	
Inputs	• Contract changes (e.g., engineering, budget, stakeholder request, mandates) • Contract baseline	
Activities	Government	Contractor
	- Identify CRs - Solicit CRs from Contractor • Issue contract modifications based on CRs • Update contract baseline	• Propose changes as CRs • Respond to CRs
Outputs	• Contract modifications (including the Annual Performance Work Statement) • Updated contract baseline	
Interactions	• Contract changes trigger CRs to Requirements Management • Receive changes as the result of approved CRs from Requirements Management	

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3.7.Change Management Process Relationships

Figure 3-1 depicts the relationships among the change management approaches. The DADS program baselines (contract, requirements, release, and infrastructure) are highlighted as the primary inputs. The incident database is also identified as an input to the requirements management. The processed changes are used to update the respective baselines, which are recorded in the databases.
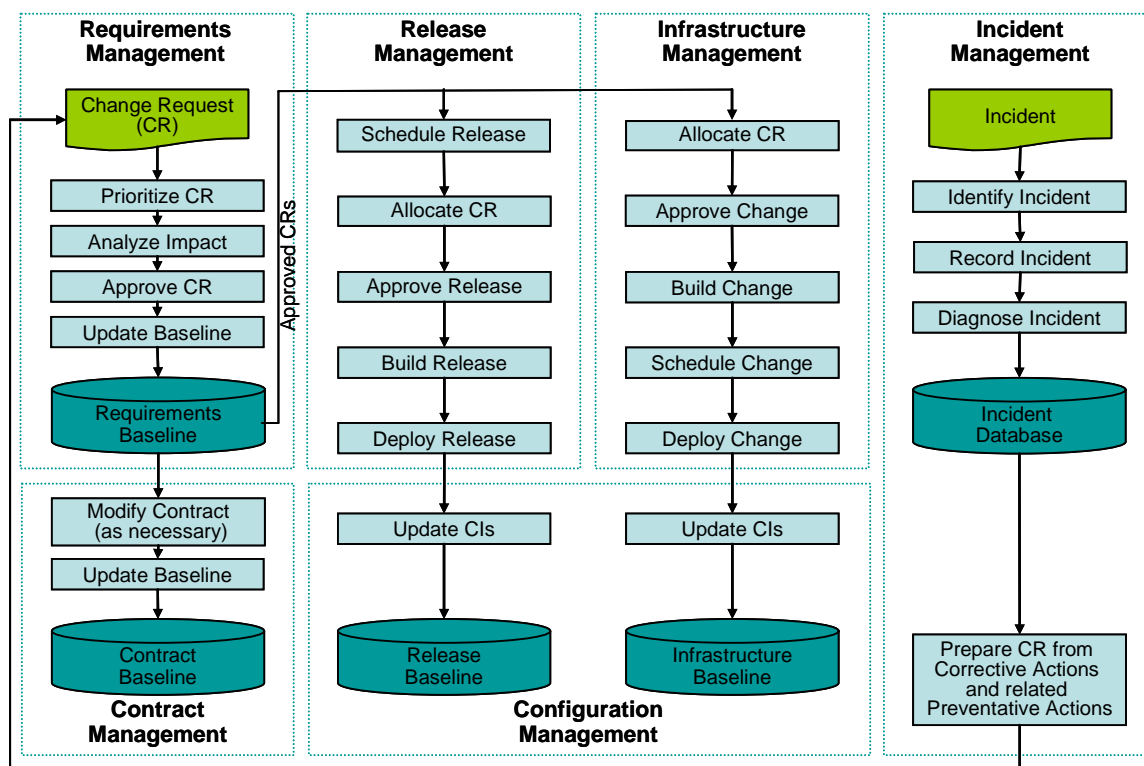
Figure 3-1. Change Management Process Relationships

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